Inside the Entrepreneur's Mind: An Investigation of the Perceived Importance of Public Support for Outward Foreign Direct Investment

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Abstract

An interesting debate is now taking place among scholars and policy makers about the value of public support for internationalization activities. These incentives have been applied in many countries to stimulate not only the exports but also foreign direct investments, but the results are not clear. Governments must ensure that beyond the increase of a country's competitiveness, public support also will promote equity between firms.

Assuming that the perceived importance of public support is a proxy of equity between firms, we have a scenario where the promotion of equity can be obtained if the less skilled firms place more value on support than firms with more competencies. In the same line of reasoning and extending the analysis to the firm's external environment, the equity increases if firms involved in more demanding environments place more value on support than firms whose investments are in less demanding environments.

We propose an ordered probit model that considers the firms' competencies and the requirements of foreign direct investments as sources of variation for the evaluation of the perceived importance of public support. This model is tested on four policy measures of a recent survey that includes 104 Portuguese firms with foreign direct investment. The overall results reveal that public support may promote equity since firms' competencies have a negative effect on the perceived importance of public support, and the requirements of foreign direct investment positively moderate the value assigned to public support.

We conclude that a non-uniform evaluation of public support may roughly predict the promotion of equity through a positive discrimination in favor of firms with less competencies and involved in more

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demanding projects of foreign direct investments.
Despite the use of representative sample, this study is exploratory and has at least two limitations that prevent a generalization of the findings. The first limitation is from the nature of the sample, which was built with firms from a small country. We do not consider any spatial differences that could arise with the inclusion of firms from other countries. The second limitation derives from the fact that the model does not consider any time variation. The importance of public support may change in different periods of time, e.g., during periods of recession, public support may have more importance than in other periods. We only can caught the effect of support during a period of crisis, 2009–2010.
Despite these limitations, the study could help to understand how entrepreneurs assess public support and how public support can promote equity between firms.

Key words: Equity; Competencies; Requirements; Ordered Probit Model
JEL:F23, H23

Contents

1 Introduction

Internationalization has become increasingly important for the survival, growth, and long-term viability of firms in globalized markets (Daniels and Bracker, 1989; Geringer et al., 1989; Lu and Beamish, 2001; Riahi-Belkaoui, 1998). The engagement of domestic firms in international activities is regarded as determining for the competitiveness of developed and developing economies due to the positive effects on economic growth, employment, technology, and innovatory capacity of home countries (Debaere et al., 2010; EURO, 2010; Federico and Minerva, 2007; Koksal, 2009; Navaretti et al., 2007).

Despite the advantages of embracing internationalization and the risks of not doing so, many firms are still focused on their national markets (EURO, 2007). This fact may result from the firms' lack of competencies to meet the uncertainty, complexity, and requirements of international environments or because firms do not consider foreign direct investment (FDI) as an attractive activity (Hollenstein, 2005; Westhead and Wright, 2001; Wright et al., 2007).

The governments of several countries were aware of this situation and have launched programs to stimulate the development and maintenance of internationalization activities.

Bearing in mind the opportunity costs of public resources and the effect of substitution between private and public resources, it is important to evaluate the role of public support on the promotion of equity. Hence, as public support is often justified by the lack of competencies and other requirements that firms may have during their process of internationalization, these sources of variation are "the main suspects" that might have an effect on the perceived importance of public support.

In particular, FDI entails a greater need for competencies and a greater foreign resource commitment than merely exporting (or merely domestic operations). It is more difficult to reverse and less flexible in dealing with risks such as adverse market conditions. Thus, public incentives may have reinforced importance when applied to firms with investments in environments that are distant in geographical, cultural, or institutional terms (**?**Svetličič, 2007; UNCTAD, 2001; Te Velde, 2007).

Despite the existence of a clear theoretical justification, there is a lack of empirical studies regarding the use and importance of public incentives for outward FDI (Bannò et al., 2011; **?**; Maeseneire and Clayes, 2007), and contradictory results regarding the effect of public support in other contexts such as innovation or less demanding modes of internationalization such as exports (Kotabe and Czinkota, 1992; Lenihan et al., 2007; Lerner, 1999; Spence, 2003; Wallsten, 2000; Wright et al., 2007).[1]

[1]Moreover, previous research on incentives to promote exports, often testing whether such promotion policies are successful in stimulating total exports of already exporting

Since there are no studies evaluating how firm competencies and FDI requirements influence the perceived importance of public incentives for internationalization, the present study verifies this issue with a general framework followed by a robust empirical analysis.
The remainder of this paper is structured as follows. In Section 2, we categorize the determinants that may influence the importance of public support used in projects of FDI between firm competencies and FDI requirements. In Section 3, we present the dataset and the empirical model. The results are discussed in Section 4 before we conclude with the limitations and contributions of this paper in Section 5.

2 The Perceived Importance of Public Support for Outward FDI Activities

Despite the efforts made by governments and the importance of public support for the development of outward FDI activities, some studies have found low levels of use of such incentives (Ahmed et al., 2002; Blanes and Busom, 2004; EURO, 2010; Koksal, 2009). Why is this so?
Beyond the ineligibility condition, resulting in the non-involvement in activities of internationalization, the low level of use may have other justifications. The the lack of importance of public support, unawareness, ineligibility, avoidance of external interferences bureaucracy, are some of the reasons that might prevent their use.
Assuming a positive association between the use and the perceived importance of public support, and a theoretical rationale where firms use public support to compensate for a lack of competencies and other difficulties related with the requirements of activities abroad, we try to understand how entrepreneurs evaluate the public support used in projects of outward FDI in light of the firms' competencies and the requirements of FDI (see Figure 1).

2.1 Firm Competencies and the Perceived Importance of Public Support

Some firm features such as size, age, international experience, financial constraints, and the qualification of human capital, may proxy the competencies that firms need to embark on outward FDI activities. In general, we suppose that smaller and younger firms, less experienced in international markets, with more financial constraints, and with less skilled human capital, are

firms or encouraging new firms to enter international markets (Girma et al., 2009; Görg et al., 2007; Spence, 1999, 2003; Wilkinson and Brouthers, 2006).

likely to hold in high regard public support for outward FDI.
More specifically, the larger and older firms may have competitive, scale, and credit advantages over smaller and younger firms. The market connections of larger and older firms tend to be more extensive, their standing in the capital market better, and their internal funds larger. Moreover, they accumulated valuable experience during their existence and, by virtue of their size, these firms can take advantage of many technological and organizational economies of scale not possible at smaller scales of operation (**?**Buckley et al., 1977; Penrose, 1959; Wolff and Pett, 2000).
Indeed, for smaller and younger firms, financial resources and managerial capabilities are normally scarcer. Public funds may help them in the development of their internal capabilities further and faster, with positive effects upon business growth (Storey, 1994). As for the problem of access to capital, Penrose (1959) has warned that this is one of the most serious handicaps that these firms face. In particular, smaller and younger firms face two facts resulting from the higher risk of lending: first, they pay a relatively higher rate of interests and; second, they have lower absolute limits on the amount of capital granted at any rate (Penrose, 1959).
Along with size and age, experience in international markets may also play an important role in the perception of the importance of public support. The most experienced firms in international markets through exports may hold in low regard public support for outward FDI because these firms may have knowledge advantages obtained during their activity that allow a superior autonomy relative to external sources of support (Koksal, 2009).
The existence of financial constraints may make impose some credit disadvantages on firms' activities, leading to difficulty in the development of FDI. Firms with higher levels of financial constraints may have a higher dependence on external financing sources and consequently a higher valuation of public support as an alternative to banks as sources of financing (Almeida and Campello, 2006; Maeseneire and Clayes, 2007). Moreover, as the debt ratio measures leverage at the parent and affiliate levels *ex ante*, we can interpret the debt ratio as a measure of the firms collateral. Firms which are more highly leveraged *ex ante*, may have fewer assets available that can serve as collateral to finance the activities *ex post* at home and abroad (Buch et al., 2009). Therefore, the use of public support for more indebted firms may be negatively associated with the perceived importance of incentives, leading us to suppose that firms with higher financial constraints may hold public support in high regard.
The qualifications of their human capital may lead to knowledge advantages applicable to activities of internationalization (**?**Welch and Welch, 1997). Firms with more skilled human capital may have higher levels of autonomy to deal with the requirements of demanding activities such as FDI and consequently may depend less on public support. Therefore, we expected that firms with more skilled human capital hold public support in low regard.

According to these lines of reasoning, firm competencies may impact negatively on the perceived importance of public support and we can formulate the following hypothesis:

Hypothesis 1: The perceived importance of public support for outward FDI is expected to be more noticeable in firms with less competencies.

Besides the above mentioned competencies, other firm-level variables, such as innovative capacity, productivity, family and foreign ownership, and location, are bound to affect the perceived importance of public support.
We can regard innovative capacity as a proxy of firms' competencies, and the perceived importance of public support for FDI is expected to be more noticeable in less innovative firms. However, innovation is recognized as a demanding activity in terms of financial resources, and an activity with positive external effects (Arrow, 1962). Because of this, more innovative firms have traditionally been supported with public incentives. Then, as more innovative firms depend greatly on public support for their research and development (R&D) investments, the relationship between firms R&D activity and the importance they allocated to public support for other activities such as internationalization becomes ambiguous.
Another variable which impacts on FDI activities is often studied: productivity. Here, we also found some ambiguity. If on the one hand the most productive companies may be awarded public support due to their performance, on the other hand as more productive firms may be more competent, they may place less value on public support.
The importance attributed by family-owned businesses (FBs) to public support is also ambiguous. FBs are very particular organizations with characteristics such as the avoidance of external interferences, the strong desire to keep control or influence, or a specific attitude toward risk, all of which may lead to their non-use of public incentives (Gallo et al., 2004). Hence, it would be expected that FBs use public support in an opportunistic way, giving less importance to them; otherwise, these firms are largely SMEs, and as their small size may proxy for a lack of competencies, the relationship between family-ownership and the importance that these firms allocate to public support becomes ambiguous.
Foreign-owned firms often depend on their headquarters. These firms may use the public incentives taking advantage of them but not considering them as essential in the development of FDI in third countries. We suppose, then, that the value assigned by these firms to public support may be relatively low.
Another variable of interest is the location of firms. Firms located in central areas benefit from economies of agglomeration, specifically from the flows of knowledge between peers' imitating each other, and from easier knowledge diffusion about international processes (Bennet et al., 2000). Hence, the

perceived importance of public support is expected to be more noticeable for firms located in the periphery. However, nowadays the flows of information are even faster than before, and firms located in peripheral regions may not have such difficulty as before, and then the importance that these firms allocate to public support becomes ambiguous.

2.2 The Requirements of FDI and the Perceived Importance of Public Support

Along with the firm competencies already mentioned, some FDI-related variables are bound to affect the perceived importance of public support. In general, firms with FDI involving more demanding conditions are likely to hold in high regard public support.

We divide the mode of entry into three options: greenfield investments, mergers and acquisitions (M&As), and joint ventures (JVs); assuming that M&As and JVs might be selected in case of a lack of own resources to achieve FDI, these modes of entry may be considered as cooperative. The perceived importance of public support is expected to be more noticeable when FDI is developed through the non-cooperative mode, i.e., greenfield investments.[2] According to this line of reasoning, FDI in geographically, cultural, distant, and risky countries can contribute to the perceived value of public support. Unlike greenfield investments where firms only use their own means, FDI through M&As and JVs may allow the sharing of resources which may substitute for the need to use public support. The combination of efforts may be a way to achieve what would be unattainable by an individual action and a way to reduce the risk of investment (Markowitz, 1959).[3] Therefore, as greenfield investments may be less cooperative and consequently more demanding than M&As and JVs, we expect that firms with greenfield investments value public support more highly (Chiburis and Lokshin, 1992; Kogut, 1989; Kumar and Subramaniam, 1997).

As firms with FDI in geographically distant economies may have more difficulties in developing their activities than firms with FDI in neighboring countries (Ojala and Tyrväinen, 2007; Ojala, 2008; Tihanyi et al., 2005), we consider that the public support may be more important to firms with FDI in geographically distant economies.

The same rationale suggests that firms with FDI in countries with higher levels of risk may value more highly the public support used (Delios and Henisz, 2003).

In accordance with these lines of reasoning, the requirements of FDI may impact positively on the perceived importance of public support, and we

[2]We assume that firms maintain their structure after the period of entry.

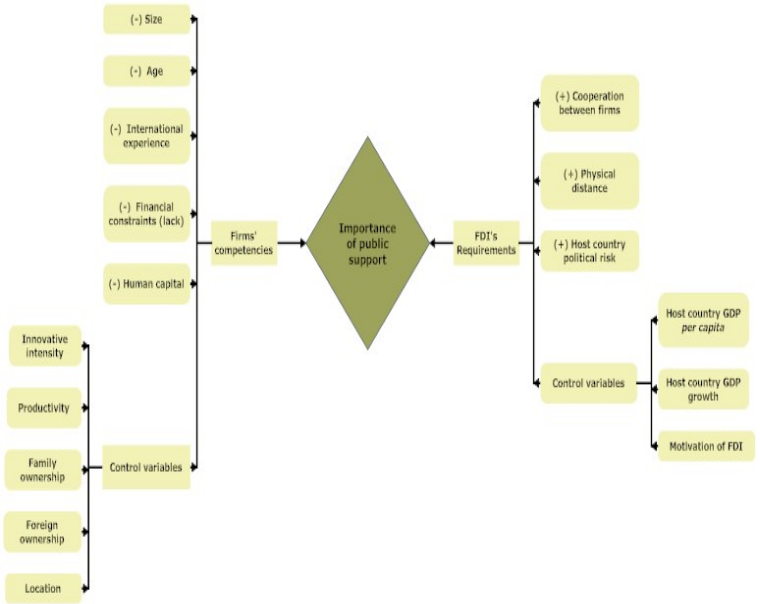
[3]Moreover, M&As and JVs may be considerate as a private substitute for public incentives to develop FDI activities.

can formulate the following hypothesis:

Hypothesis 2: The perceived importance of public support for FDI is expected to be more noticeable in firms that face more demanding conditions.

Besides the above requirements of FDI, other variables such as gross domestic product *per capita* (GDPC), gross domestic product growth (GDPG), and the motivations for FDI, are bound to affect the perceived importance of public support.
Host countries with greater GDP per capita are in general more developed and easier to reach than countries with lower GDP per capita. The last frequently requires maneuvers to be reached and can be considered as demanding locations.
Otherwise the countries with greater growth rates were often countries in which development is higher and located in less developed countries that are less easy to reach.
Other aspect of interest can be the motivations, that lead firms to FDI. If market seeking can be considered less demanding when compared with natural resources seeking, due to the relative less amount of resources involved. Theres is no clear idea of the impact of motivation on importance of public supports. In the next section, we conduct an empirical analysis on how these firm- and FDI-related aspects influence the importance attributed to public support used for outward FDI activities.

Figure 1: Perceived Importance of Public Support for Development of FDI



3 Methodology

3.1 Empirical Setting

Following the hypotheses established above, this paper evaluates the perceived importance of public support with impact on FDI activities through firm competencies and the requirements of FDI.
As there is no data available to test the hypotheses stated above, we selected a small country and a specific period of time to get a pilot sample: Portugal during the decade 1999–2009.
We start with the identification of internationalization support measures (ISMs) with impact on outward FDI launched in this country during the period of time selected. The following 11 ISMs were identified:

- ISM1 -*Public support for participation in trade fairs and state missions* identified in law 560/2004 and law decree 1463/2007;
- ISM2 -*Public support through training and consulting services* identified in law 560/2004;
- ISM3 -*Public support through informational services* identified in law 560/2004 and law decree 245/2007;
- ISM4 -*Public support through international exchange programs for human resources* identified in law 1103/2008;
- ISM5 -*Public support through international investment agreements (IIAs)* identified in law decree 245/2007 and law 249/2009;
- ISM6 -*Public support through investment and credit insurance or mutual funds* identified in law decree 245/2007;
- ISM7 -*Public support through venture capital (VC)* identified in law decree 245/2007;
- ISM8 -*Public support through fiscal benefits* identified in law decrees 401/1999 and 249/2009;

- ISM9 -*Public support through other public financial support* identified in laws 1254/2003, 560/2004, in the ministerial decree 1998/2006, and in law decrees 187/2007, 1463/2007, 250/2008, 65/2009 and 353-A/2009;

- ISM10 -*Public support through protocols of governmental agencies and banks* identified in law decree 245/2007;

- ISM11 - *Public support for acquiring or developing brands, marketing or sales* identified in laws 1254/2003 and 560/2004, and in law decrees 1463/2007, 250/2008, 353-A and 1020;

With the collected information concerning public support, we developed a questionnaire that was administerd to a sample of firms obtained through 89 business associations, proportionally distributed by industry and region. This sample includes 4,637 firms (almost 1% of Portuguese firms in 2009) that were contacted by several modes (e-mail, postal letter, and phone) to fill out an on-line questionnaire.[4]
In order to ensure valid and reliable results, the questionnaire development follow three steps: first, the relevant literature was reviewed to identify measures of the constructs; second, to have content validity, two consultants and five managers read the questionnaire and provided inputs for revision; third, the questionnaire was pre-tested by personal interviews with ten firms.
Between December 2009 and May 2010, we received 441 responses (10% of the firms contacted), 357 responses were collected from firms without FDI and 104 from firms with FDI. As the subject of this paper remains the importance of public support used during activities of FDI, we only explore the data collected from firms internationalized through FDI.[5]

3.2 Econometric Model

The modeling methodology used to study the effects of firm competencies and FDI's requirements on the perceived importance of public support was a model based on ordered choices, in particular an ordered probit model (OPM).
The OPM is based on a maximum likelihood (ML) function that especially fits the research question. As in ordinary least squares (OLS) regression, the

[4]This questionnaire was hosted at the University of Aveiro and can be retrieved from http://wsl2.cemed.ua.pt/ide/questionario.doc

[5]Considering the existence of 600 firms established in Portugal with FDI (Ietto-Gillies, 2005), the sample represents about 17.5% of Portuguese foreign direct investors.

ML identifies marginal effects and statistically significant relations between independent variables (in this case a set of variables related with firm competencies and FDI requirements) and a dependent variable (the perceived importance of public support), but unlike OLS regression, ordered probit discerns unequal differences between ordinal categories of dependent variable.
Thus, for example, ML does not assume that the difference between "unimportant" and "of little importance" is the same as the difference between "of little importance" and "important", given a unit change in the independent variables. This function captures the qualitative differences between levels of public support's importance (I).
Whereas in a linear regression, a firm with $I = 2$ would evaluate the importance of any measure twice as much as one with $I = 1$, in an ordered probit model, no such presumption of cardinality is made, $I = 2$ simply indicates a higher level of importance than $I = 1$.
The basic notion underlying this model (OPM) is the existence of a latent or unobserved continuous variable, I^* ranging from $-\infty$ to $+\infty$, indicating the importance-level in each ISM m by every firm i, i.e., I_{im} (Greene and Hensher, 2010). This latent variable is related to a set of independent variables by the standard linear relationship

$$I^*_{im} = \beta' X_{im} + \varepsilon_{im}, \tag{3.1}$$

where X_{im} is a vector of independent variables that includes the variables representing firm competencies and FDI requirements for every ISM, m. The β is the associated parameter vector, and ε is a random error term drawn from a standardized normal distribution. Although I^* is unobserved, the integer index is observed and is related to I by the following relationship:

$I_{im} = 0$ if $I^*_{im} \leq 0$,
$I_{im} = 1$ if $0 < I^*_{im} \leq \mu_1$,
$I_{im} = 2$ if $\mu_1 < I^*_{im} \leq \mu_2$.
...
$I_{im} = J$ if $\mu_{j-1} \leq I^*_{im}$.

Here, μ_j are the unobserved thresholds defining the boundaries between the different levels of importance. These parameters are free, with no significance to the unit distance between the different observed values of I. Given the relationship between I and I^* and the distribution of the error term ε, one may express the probability of observing an individual as having zero value of the index I:

$Prob(I = 0|X) = p(I^* \leq 0)$

$= Prob(\varepsilon \leq -X\beta)$
$= \int_{-\infty}^{-X\beta}(2\pi)^{-\frac{1}{2}}exp(-\frac{u^2}{2})du$
$= \Phi(-X'\beta),$

where $\Phi(.)$ indicates the standard normal distribution function. Similarly, one may specify the other probabilities:

$Prob(I = 1|X) = \Phi(\mu_1 - X'\beta) - \Phi(-X'\beta)$
$Prob(I = 2|X) = \Phi(\mu_2 - X'\beta) - \Phi(\mu_1 - X'\beta)$
...
$Prob(I = J|X) = 1 - \Phi(\mu_{j-1} - X'\beta)$
with
$\mu_j > \mu_{j-1}\ \forall j \in a, ..., J.$

As noted above, the only restriction is that a firm with an observed index value of j have a higher importance than one value of $j-1$. The values of the thresholds μ_j are estimated as additional parameters of the model.
The cut-point estimates may be informative about the thresholds (Daykin and Moffatt, 2002). First, if the statement is one with which most respondents are either on 'unimportant' or 'essential' level, then we would expect the cut-points to be tightly bunched in the middle of the distribution. If, in contrast, the statement is one on which respondents are not keen to be seen expressing strong views, we would expect the cut points to be more widely dispersed. Second, it must be the case that cut points adjust according to the wording of the statement. For example, if the wording of a statement is obscure and hard to understand, we might expect the middle cut points to be far part, reflecting that respondents who fail to understand the statement tend to report indifference. The importance of this is that if the wording of a particular statement is refined in some way between surveys, a contraction toward the middle of the cut points may be perceived as positive evidence of an improvement (Daykin and Moffatt, 2002).
Relatively to the marginal effects of the regressors X on the probabilities, they are not equal to the coefficients. In our specific case, with five categories, the model has four unknown threshold parameters. In general we have:

$$Prob(I = j|X) = F(\mu_j - \sum_{k=1}^{K} X_k\beta_k) - F(\mu_{j-1} - \sum_{k=1}^{K} X_k\beta_k). \tag{3.2}$$

The marginal effects on the event probability in probit models as the partial derivative of probability with respect to X_k, in general are:

$$\frac{\partial Prob(I=j|X)}{\partial X_k} = (f(\mu_{j-1} - \sum_{k=1}^{K} X_k\beta_k) - f(\mu_j - \sum_{k=1}^{K} X_k\beta_k))\beta_k \qquad (3.3)$$

Therefore, in order to verify whether the independent variables have statistical significance for the dependent variable, where the respondents might vary in intensity of feeling about the research question depending on certain measurable variables, xs and certain unobserved factors, ε, we used an ordinal regression with the probit link function. The selection of probit link function is fitted with the probit regression (Liao, 1994; Norusis, 2010)
The ordinal regression procedure is a extension of the general linear model to ordinal categorical data with five possible link functions. The choice of link function was made in accordance with category frequencies distribution criteria of dependent variable defined in Agresti (2002); Long and Freese (2006); Norusis (2010). Though we tested other link functions such as the logit, cauchit and log log, the probit link function presented better significance in all measures analysed. Additionally, we validated the model homogeneity of slopes in all independent variables with the test of parallel lines following the method of Norusis (2010).

3.3 Dependent Variable

The dependent variable is the entrepreneurs' perceived importance of public support measured with a five points Likert scale (1 - unimportant; 2 - of little importance; 3 - important; 4 - very important; and 5 - essential).[6]
Table 1 shows that public support tends to be evaluated from important to essential for the development of FDI. However, the level of use is low in most of the ISMs.
In order to have a representative analysis with both non-financial and financial ISMs and to secure the consistency of results, we only test two non-financial and two financial (those most used), i.e., ISM1, ISM3, ISM8 and ISM9 were the ISMs selected.

3.4 Independent Variables

Following the discussion initiated in Section 2, the independent variables included in the model are labeled in two groups as firm competencies and FDI requirements.

[6]Predicting that firms might have more than one FDI project, entrepreneurs were asked to just consider the main project developed since 1999 until 2009.

Table 1: The Perceived Importance and Use of Portuguese ISMs (1999–2009)

Internationalization Support Measures	Level of Importance (%) 1	2	3	4	5	Use (%)
ISM1: Public support for participation in trade fairs or state missions	10.53	21.05	30.26	23.68	14.48	73.07
ISM2: Public support through training and consulting services	11.54	13.46	53.85	15.38	05.77	50.00
ISM3: Public support through informational services	20.00	20.00	16.67	24.44	18.89	86.54
ISM4: Public support through international exchange programs for human resources	10.00	10.00	73.34	03.33	03.33	28.85
ISM5: Public support through international investment agreements	22.58	03.23	51.61	12.90	09.68	29.81
ISM6: Public support through investment and credit insurance and mutual funds	16.67	08.33	58.33	13.89	02.78	34.62
ISM7: Public support through venture capital capital	00.00	00.00	76.92	23.08	00.00	12.50
ISM8: Public support through fiscal benefits	13.73	17.65	19.61	23.53	25.48	47.11
ISM9: Public support through other public financial support	16.00	16.00	16.00	26.00	26.00	48.08
ISM10: Public support through collaboration protocols between gov. agencies and banks	04.76	00.00	76.19	19.05	00.00	20.19
ISM11: Public support for acquiring or developing brands, marketing or sales	26.09	04.35	56.52	00.00	13.04	22.12

Source: own elaboration

We considered the following proxies of firm competencies:

- *Size* (SIZE) is measured by the number of employees in the year before the FDI $(t-1)$;

- *Age* (AGE) is measured in years (difference between the year before the FDI $(t-1)$ and the year of establishment (t_f));

$$AGE = (t-1) - t_f \tag{3.4}$$

- *International experience (as exporters)* (EXPX) is measured by the years of export activity (difference between the year before the FDI $(t-1)$ and the year when the firm began to export (t_e)));

$$EXPX = (t-1) - t_e \tag{3.5}$$

- *Financial constraints* (FCS) is measured by the weight ratio of loans plus liabilities to assets in the year before FDI $(t-1)$;

$$FCS = \frac{LOANS_{t-1} + LIABILITIES_{t-1}}{ASSETS_{t-1}} \tag{3.6}$$

- *Human capital* (HRQ) measured by the weight ratio of number of employees with bachelor's degree (BAs) to total employees in the year before FDI (SIZE) $(t-1)$;

$$HRQ = \frac{BAs_{t-1}}{SIZE_{t-1}} \tag{3.7}$$

Along with the variables considered above, we included in the model the following control variables:

- *Innovative intensity* (RDI) is measured by the weight ratio of R&D expenditures (RDE) to the total of sales (S) in the year before FDI $(t-1)$;

$$RDI = \frac{RDE_{t-1}}{S_{t-1}} \tag{3.8}$$

- *Productivity of labor* (PROD) is measured by the weight ratio of sales to number of employees in the year before FDI $(t-1)$;

$$PROD = \frac{S_{t-1}}{SIZE_{t-1}} \tag{3.9}$$

- *Family ownership* (FAM) is a binary variable (0 if non family-owned and 1 if family-owned);

- *Foreign ownership* (FF) is a binary variable (0 if non foreign-owned and 1 if foreign-owned);

- *Location* (LOC) a binary variable (0 if located in a central region and 1 if located in a peripheral region);

Table 2 shows that a typical firm before embarking on FDI has an average age of 30 years, 11 years as exporter, 981 employees, 17% of which have a bachelor's degree. This firm has an innovative intensity of 6%, an indebtedness of 43%, and approximately 213,379 euros of sales per worker (year). The family-owned firms are 33%, the foreign-owned firms are 4%, and the firms located in peripheral regions are 76%.
In terms of FDI requirements, we considered the following proxies:

- *Cooperation between firms* (COOP) is a variable with three categories (1 if greenfield investment, 2 if merger or acquisition and 3 if joint venture);

- *Physical distance between headquarters and subsidiaries* (PDHS) is measured by the number of kilometers between the capitals of the home and host countries[7] ;

- *Host country political risk* (PRK) is measured by the Organisation for Economic Co-operation and Development (OECD) classification of country risk credit (0 to 7) for the previous year to the FDI $(t-1)$.[8]

Along with the proxies of FDI requirements considered above, the model includes the following control variables:

- *Host country GDP per capita* (GDPC) is obtained for each host country for the year previous to the FDI $(t-1)$[9]

- *Host country GDP growth* (GDPG) is computed for each host country through the ratio between the difference of the last year's GDP (before FDI), $(t-1))$, and the last but one year's GDP (before FDI), to the

[7]The data to compute this variable was collected from mapcrow database retrieved 25 April 2010 http://www.mapcrow.info/

[8]Retrieved 26 October 2009 from http://www.oecd.org/.

[9]Retrieved 26 October 2009 from http://www.unctad.org/.

last but one year's GDP (before FDI) $(t-2)$;[10]

$$GDPG = \frac{GDP_{t-1} - GDP_{t-2}}{GDP_{t-2}} \tag{3.10}$$

- *Motivation of investment* (MOT) is a variable with four categories (1 if the main motivation for FDI is the natural resource seeking, 2 if market seeking, 3 if efficiency seeking and 4 if strategic assets seeking).

Table 2 shows that 70% of firms used greenfield investments as their entry mode, 15% JVs, and 15% M&As. The distance between home and host countries capitals is on average, 3674 kilometers. The level of political risk of the host countries is 3 within a ranking of 7 points.
The host countries included in the sample have a GDP per capita of 10,667 United States dollars (USDs) and a GDPG of 5%. As to the motivations, 65% of firms seek mainly markets, 15% strategic assets, 13% natural resources, and 9% are efficiency seekers.
In order to discover whether there are correlations between the independent variables, we computed the correlation matrix presented in Table 11 of Appendix A (White, 1980). It reveals a strong correlation of PRK with PDHS and GDPC. We compute a new matrix without PRK with acceptable correlations between the remaining variables (Table 12).

4 Econometric Findings

Following the criteria defined in 3.3, the model was applied to four ISMS. The results overall reveal a negative effect of firm competencies on the perceived importance of public support. But the effect of FDI requirements on the perceived importance of public support is in general positive.
For the sake of readability, we report the results separately.

4.1 Public Support for Participation in Trade Fairs and State Missions

The model that evaluates the effect of firm competencies and FDI requirements on entrepreneurs' perceived importance of public support for *Partic-*

[10]The data to compute this variable was collected from the UNCTAD database retrieved 26 October 2009 at http://www.unctad.org/.

Table 2: Summary Statistics

Variable	Mean	Std. Dev.	Min.	Max.
Size	981.00	2743.00	1.00	20869.00
Age	30.00	24.00	1.00	133.00
International Experience	11.00	12.00	0.00	63
Financial Constraints	0.43	0.19	0.00	0.86
Human Capital	0.17	0.25	0.00	1.00
Innovative Intensity	0.06	0.24	0	2.30
Productivity	213379.30	314652.60	2367.00	2300000.00
Family Ownership	0.33	n.a	n.a.	n.a
Foreign Ownership	0.04	n.a	n.a.	n.a
Location	0.76	n.a	n.a.	n.a
Greenfield	0.70	n.a	n.a.	n.a
Mergers or Acquisitions	0.15	n.a	n.a.	n.a
Joint Ventures	0.15	n.a	n.a.	n.a
Host Country Physical Distance	3674	3181.27	423.00	10990.00
Host Country Political Risk	3.00	3.15	0.00	7.00
Host Country GDP per Capita	10667	8747.94	675.00	31774.00
Host Country GDP Growth	0.05	0.09	-0.38	0.68
Natural Resource Seekers	0.13	n.a	n.a.	n.a
Market Seekers	0.65	n.a	n.a.	n.a
Efficiency Seekers	0.09	n.a	n.a.	n.a
Strategic Asset Seekers	0.15	n.a	n.a.	n.a

Source: own elaboration

ipation in Trade Fairs and State Missions (ISM1) during the development of the main project of FDI is statistically significant. This means that we reject the (null) hypothesis that considers the model without predictors equally good as the model with predictors.[11] Since the observed significance level in the test of parallel lines is large,[12] there is no (sufficient) evidence to reject the parallelism hypothesis of this model.

Table 3 shows that firm competencies such as: size, age and international experience are all negatively related with the importance of ISM1. In fact, the model suggests that as size, age and international experience increase, the probability of being verified higher level categories on importance, *ceteris paribus*. These results confirm hypothesis 1 and support the idea that smaller firms, younger and less experienced in international markets have fewer resources and more difficulties in developing FDI and therefore at-

[11] χ^2=86.86; ρ=0.0000; pseudo R^2=0.3731

[12] ρ=1.000

tribute more value to public support.
However, the results for innovative intensity and firms' peripheral location go in the opposite direction. The model suggests that innovative intensity is positively related with the importance of public support. Then, public support is particularly relevant to innovative activities, leading the more innovative firms to depend more on public support, valuing it more highly than firms that do not depend on public support.
Relatively to the smaller probability of there being attributed higher levels of importance to this measure in firms located in peripheral locations, this goes against the importance of economies of agglomeration and requires further research.
Relatively to the requirements of FDI, Table 3 shows that firms with greenfield investments are more likely to assign higher levels of importance to this measure than firms with other modes of entry that imply some level of cooperation between firms. This result may corroborate the idea that the entry mode, if a cooperative mode, can act as a substitute for firm competencies. Firms with M&As and JVs may use it due to their availability but in an opportunistic way.
Finally, we found a negative effect of GDP per capita on the importance of public support. This result corroborates the idea that host countries with greater GDP per capita are less difficult to reach. In general, more developed countries are easier to reach than countries with lower GDP per capita and this may make the need of support relatively less important than in scenarios where it is more difficult to enter.

The analysis of the marginal effects complements the sign of parameter estimates and their statistical significance. Summarizing the results for marginal effects, Table 4 shows that

- An increase of one employee in size augments the probability of ISM1 being classified as unimportant by about 0.005%, unlike the probability of being classified as essential, which decreases 0.002%;

- An increase of one year in firm age augments the probability of ISM1 being classified as unimportant by about 0.036%, unlike the probability of being classified as essential, which decreases 0.1156%;

- An increase of one year in international experience through exports augments the probability of ISM1 being classified as unimportant by about 0.066%, unlike the probability of being classified as essential, which decreases 0.2123%;

- An increase of one percent in the ratio between R&D expenses and sales (innovative intensity) decreases the probability of ISM1 being classified as unimportant by about 4.25%, unlike the probability of being classified as essential, which increases 13.68%;

Table 3: Estimation Results: Ordered Probit on ISM1

Variable	Coefficient	(Std. Err.)
Equation 1: ISM1		
Size	-0.000**	(0.000)
Age	-0.028***	(0.009)
International Experience	-0.051***	(0.015)
Financial Constraints	1.209	(0.778)
Human Capital	-0.711	(0.740)
Innovative Intensity	3.309**	(1.306)
Productivity	0.000	(0.000)
Family Ownership	-0.384	(0.358)
Foreign Ownership	0.259	(0.729)
Location	-0.825**	(0.375)
Greenfield	1.140***	(0.414)
Mergers or Acquisitions	0.858	(0.815)
Host Country Physical Distance	0.000	(0.000)
Host Country GDP Growth	0.441	(1.660)
Natural Resource Seekers	0.287	(0.797)
Market Seekers	0.343	(0.709)
Equation 2: cut1		
Intercept	-2.165	(1.534)
Equation 3: cut2		
Intercept	-0.277	(1.492)
Equation 4: cut3		
Intercept	1.249	(1.493)
Equation 5: cut4		
Intercept	2.586*	(1.528)

Significance levels: $*$ **: 10%** $**$ **: 5%** $***$ **: 1%**

Source: Own elaboration

- A firm located in a peripheral region presents an increase of 2.1% in the probability of ISM1 being classified as unimportant, and a decrease of 2.3% in the probability of ISM1 being classified as essential, relatively to a firm located in a central region;
- The probability of ISM1 being classified as unimportant by firms with greenfield investments decreases by about 2.9%, and the probability of being classified as essential decreases by about 2.3%;
- An increase of one percent in the growth rate of the host country decreases the probability of ISM1 being classified as unimportant by about 0.6%, unlike the probability of being classified as essential, which increases 1.8%.

Table 4: Marginal Effects on ISM1

	Level of Importance (%)				
Variable	**Unimportant**	**L. Important**	**Important**	**V. Important**	**Essential**
Size	4.93e-06	0.0001120	-5.12e-06	-0.0000960	-0.0000159
Age	0.0003592	0.0081623	-0.0003732	-0.0069922	-0.0011561
International Experience	0.0006598	0.0149918	-0.0006855	-0.0128427	-0.0021234
Financial Constraints	-0.0155245	-0.3527575	.0161298	0.3021882	0.049964
Human Capital	0.0091326	0.2075161	-0.0094887	-0.1777678	-0.0293923
Innovative Intensity	-0.0425004	-0.9657202	0.0441575	0.82728	0.1367831
Productivity	1.67e-09	3.78e-08	-1.73e-09	-3.24e-08	-5.36e-09
Family Ownership	-0.0045897	0.1061289	0.0077399	-0.0991528	-0.0189241
Foreign Ownership	-0.0045897	-0.0809227	0.0172757	0.0598845	0.0083522
Location	0.0211555	0.2619349	-0.0870634	-0.1728103	-0.0232167
Greenfield	-0.0290213	-0.3459608	0.0915151	0.2440333	0.0394337
Mergers or Acquisitions	-0.0060801	-0.1964650	-0.0927462	0.2274593	0.0678320
Host Country Physical Distance	-3.30e-07	-7.50e-06	3.43e-07	6.42e-06	1.06e-06
Host Country GDP per Capita	7.19e-07	0.0000163	-7.47e-07	-0.000014	-2.31e-06
Host Country GDP Growth	-0.0056672	-0.1287747	0.0058882	0.1103143	0.0182394
Natural Resource Seekers	-0.0028171	-0.0774387	-0.0103304	0.0755293	0.015057
Market Seekers	-0.0051921	-0.1030625	0.0126151	0.0827403	0.0128992

Source: Own elaboration

4.2 Public Support Through Informational Services

The model that evaluates the effect of firm competencies and FDI requirements on entrepreneurs' perceived importance of *Public Support Through Informational Services (ISM3)* during the development of the main project of FDI is statistically significant. This means that we reject the (null) hypothesis that considers the model without predictors equally good as the model with predictors.[13] Since the observed significance level in the test of parallel lines is large, there is no (sufficient) evidence to reject the parallelism hypothesis of this model.[14]

Table 5 shows that firm competencies such as: size, age and international experience are all negatively related with the importance of ISM3. In fact, the model suggests that as size, age and international experience increase, the probability of being verified higher level categories on importance, *ceteris paribus*. These results confirm hypothesis 1 and support the idea that firms with less competencies (in particular smaller firms, younger and less experienced in international markets) have fewer resources and more difficulties in developing FDI and therefore value public support more highly.

As to the FDI requirements, Table 6 shows that firms with greenfield investments are less likely to assign higher levels of importance to this measure than firms with other modes of entry that may imply some level of cooperation, such as M&As and JVs. This result contradicts the results obtained in ISM1, and requires further research.

In terms of physical distance, we verified that the importance of ISM3 decreases when firms do FDI in further locations. This result goes against the idea that public support through informational services is more important in FDI done far away. Indeed, it shows that firms with FDI done in more close locations value more highly this type of support. This happens because eventually the companies that invest in more distant countries use other sources of information.

Summarizing the results of the marginal effects from the analysis of ISM3, Table 6 shows that:

- An increase of one employee in size augments the probability of ISM1 being classified as unimportant by about 0.016%, unlike the probability of being classified as essential, which decreases 0.007%;
- An increase of one year in firm age augments the probability of ISM1 being classified as unimportant by about 0.48%, unlike the probability of being classified as essential, which decreases 0.22%;
- An increase of one year in international experience through exports augments the probability of ISM1 being classified as unimportant by

[13] χ^2=63.83; ρ=0.0000; pseudo R^2=0.2240

[14] ρ=1.000

Table 5: Estimation Results: Ordered Probit for ISM3

Variable	Coefficient	(Std. Err.)
Equation 1: ISM3		
Size	-0.001***	(0.000)
Age	-0.019***	(0.007)
International Experience	-0.029**	(0.012)
Financial Constraints	0.095	(0.709)
Human Capital	0.874	(0.574)
Innovative Intensity	1.026	(1.343)
Productivity	0.000	(0.000)
Family Ownership	-0.369	(0.311)
Foreign Ownership	-0.069	(0.716)
Location	-0.147	(0.329)
Greenfield	-0.918**	(0.406)
Mergers or Acquisitions	0.473	(0.721)
Host Country Physical Distance	0.000**	(0.000)
Host Country GDP per Capita	0.000	(0.000)
Host Country GDP Growth	1.939	(1.565)
Natural Resource Seekers	0.910	(0.681)
Market Seekers	0.928	(0.624)
Equation 2: cut1		
Intercept	-2.029	(1.512)
Equation 3: cut2		
Intercept	-1.185	(1.502)
Equation 4: cut3		
Intercept	-0.584	(1.501)
Equation 5 : cut4		
Intercept	0.486	(1.500)

Significance levels: $*$ **: 10%** $**$ **: 5%** $***$ **: 1%**

Source: Own elaboration

about 0.73%, unlike the probability of being classified as essential, which decreases 0.34%;

- The probability of ISM1 being classified as unimportant by firms with greenfield increases by about 19.5%, and the probability of being classified as essential decreases by about 14.4%;
- An increase of one kilometer in physical distance decreases the probability of ISM1 being classified as unimportant by about 0.003%, unlike the probability of being classified as essential, which decreases 0.001%.

Table 6: Marginal Effects on ISM3

	Level of Importance (%)				
Variable	Unimportant	L. Important	Important	V. Important	Essential
Size	0.0001579	0.0000881	-0.0000275	-0.0001462	-0.0000723
Age	0.0048281	0.0026929	-0.0008409	-0.0044702	-0.0022099
International Experience	0.0073217	0.0040838	-0.0012753	-0.006779	-0.0033512
Financial Constraints	-0.0243155	-.0135623	0.0042351	0.0225132	0.0111295
Human Capital	-0.2225367	-.1241228	0.0387599	0.2060420	0.1018576
Innovative Intensity	-0.2612632	-0.1457231	0.0455050	0.2418980	0.1195832
Productivity	-1.70e-08	-9.51e-09	2.97e-09	1.58e-08	7.80e-09
Family Ownership	0.0885713	0.0557741	-0.0113065	-0.0855510	-0.0474879
Foreign Ownership	0.0170013	0.0102051	-0.0025707	-0.0161974	-0.0084384
Location	0.0388507	0.0195167	-0.0078053	-0.0345386	-0.0160235
Greenfield	0.1954956	0.1451546	-0.0032269	-0.1934251	-0.1439982
Mergers or Acquisitions	-0.1015580	-0.0786928	0.0031749	0.1057989	0.0712771
Host Country Physical Distance	0.0000314	0.0000175	-5.47e-06	-0.0000291	-0.0000144
Host Country GDP per Capita	3.55e-06	1.98e-06	-6.18e-07	-3.28e-06	-1.62e-06
Host Country GDP Growth	-0.4939184	-0.2754897	0.0860273	0.4573085	0.2260722
Natural Resource Seekers	-0.1654515	-0.1571601	-0.0233494	0.1759807	0.1699802
Market Seekers	-0.2620332	-0.0952485	0.0597969	0.2042979	0.0931868

Source: Own elaboration

4.3 Public Support Through Fiscal Benefits

The model that evaluates the effect of firm competencies and FDI requirements on entrepreneurs' perceived importance of *Public Support Through Fiscal Benefits (ISM8)* during the development of the main project of FDI is statistically significant. This means that we reject the (null) hypothesis that considers the model without predictors equally good as the model with predictors.[15] Since the observed significance level in the test of parallel lines

[15] χ^2= 76.59; ρ=0.0000; pseudo R^2= 0.4922

is large,[16] there is no (sufficient) evidence to reject the parallelism hypothesis of this model.
Table 7 shows that firm competencies such as: size, age and international experience and human capital are all negatively related with the importance of ISM8. In fact, the model suggests that as size, age, international experience and number of employees with BA increase, the probability decreases that being verified higher level categories on importance, *ceteris paribus*. These results confirm hypothesis 1 and support the idea that firms with less competencies (in particular, smaller firms, younger, less qualified and experienced in international markets) have fewer resources and more difficulties in developing FDI and therefore value public support more highly.
The smaller probability of attributing higher levels of importance to this measure in foreign owned firms supports the idea that foreign owned firms have own means to develop FDI and the use of public support is opportunistic.
As to the FDI requirements, Table 7 shows that firms with greenfield investments are more likely to assign higher levels of importance to this measure than firms with other mode of entry that may imply some level of cooperation, such as M&As and JVs. This result is in line with the results verified in ISM1 and goes against the results verified in ISM3.

Summarizing the results of the marginal effects from analysis of ISM8, Table 8 shows that:

- An increase of one employee in size augments the probability of ISM8 being classified as unimportant by about 0.047%, unlike the probability of being classified as essential, which decreases 0.002%;
- An increase of one year in firm age augments the probability of ISM8 being classified as unimportant by about 0.85%, unlike the probability of being classified as essential, which decreases 0.38%;
- An increase of one year in international experience through exports augments the probability of ISM8 being classified as unimportant by about 0.17%, unlike the probability of being classified as essential, which decreases 0.08%;
- An increase of one percent in the ratio between employees with a BA and the total employees (human capital) increases the probability of ISM8 being classified as unimportant by about 4.78%, unlike the probability of being classified as essential, which decreases 2.16%;
- A foreign owned firm presents relatively to a non foreign-owned firm an increase of 1% in the probability of ISM8 being classified as unimportant, and a decrease of 27.57% in the probability of ISM8 being classified as essential;

[16] ρ=1.000

Table 7: Estimation Results: Ordered Probit for ISM8

Variable	Coefficient	(Std. Err.)
Equation 1: ISM8		
Size	-0.002***	(0.001)
Age	-0.038***	(0.013)
International Experience	-0.080***	(0.030)
Financial Constraints	1.769	(1.094)
Human Capital	-2.162**	(0.884)
Innovative Intensity	0.959	(1.943)
Productivity	0.000	(0.000)
Family Ownership	0.183	(0.691)
Foreign Ownership	-2.217*	(1.321)
Location	0.625	(0.570)
Greenfield	1.561**	(0.631)
Mergers or Acquisitions	-0.025	(1.025)
Host Country Physical Distance	0.000	(0.000)
Host Country GDP per Capita	0.000	(0.000)
Host Country GDP Growth	1.623	(1.798)
Natural Resource Seekers	0.346	(0.892)
Market Seekers	-1.230	(0.802)
Equation 2: cut1		
Intercept	-6.692**	(3.054)
Equation 3: cut2		
Intercept	-4.290	(2.860)
Equation 4: cut3		
Intercept	-2.944	(2.840)
Equation 5 : cut4		
Intercept	-1.572	(2.815)

Significance levels: $*$ **: 10%** $**$ **: 5%** $***$ **: 1%**

Source: Own elaboration

- The probability of ISM8 being classified as unimportant by firms with greenfield investments decreases by about 8.1%, and the probability of being classified as essential increases about 1.48%.

Table 8: Marginal Effects on ISM8

	Level of Importance (%)				
Variable	Unimportant	L. Important	Important	V. Important	Essential
Size	0.0000470	0.0007997	-0.0005027	-0.0003227	-0.0000212
Age	0.0008511	0.0144900	-0.0091086	-0.0058476	-0.0003849
International Experience	0.0017698	0.0301321	-0.0189414	-0.0121600	-0.0008005
Financial Constraints	-0.0391412	-0.6664078	0.4189119	0.2689338	0.0177033
Human Capital	0.0478478	0.8146447	-0.5120953	-0.3287559	-0.0216412
Innovative Intensity	-0.0212145	-0.3611919	0.2270495	0.1457617	0.0095951
Productivity	1.51e-08	2.58e-07	1.62e-07	-1.04e-07	-6.85e-09
Family Ownership	-0.0044487	-0.0686016	0.0446849	0.0266837	0.0016817
Foreign Ownership	0.0103197	0.5076803	0.1897051	-0.4319471	-0.2757581
Location	-0.0101581	-0.2320579	0.1175497	0.1142799	0.0103864
Greenfield	-0.0813270	-0.4709693	0.3497440	0.1877695	0.0147828
Mergers or Acquisitions	0.0005725	0.0095358	-0.0060484	-0.0038121	-0.0002479
Host Country Physical Distance	-1.98e-06	-0.0000336	0.0000211	0.0000136	8.94e-07
Host Country GDP per Capita	2.20e-07	3.74e-06	-2.35e-06	-1.51e-06	-9.95e-08
Host Country GDP Growth	-0.0359248	-0.6116456	0.3844877	0.2468342	0.0162485
Natural Resource Seekers	-0.0058945	-0.1302824	0.0709969	0.0603339	0.0048461
Market Seekers	0.0292662	0.4305040	-0.2292432	-0.2090081	-0.0215189

Source: Own elaboration

4.4 Public Support Through Other Public Financial Support Modes

The model that evaluates the effect of firm competencies and FDI requirements on entrepreneurs' perceived importance of *Public Support Through Other Public Financial Support Modes (ISM9)* during the development of the main project of FDI is statistically significant. This means that we reject the (null) hypothesis that considers the model without predictors equally good as the model with predictors.[17] Since the observed significance level in the test of parallel lines is large,[18] there is no (sufficient) evidence to reject the parallelism hypothesis of this model.

Table 9 shows that firm competencies such as: size, international experience, productivity and family ownership are all negatively related with the

[17] χ^2= 80.39; ρ=0.0000; pseudo R^2= 0.5178

[18] ρ=1.000

perceived importance of ISM9. In fact, the model suggests that as size, international experience and productivity increase, the probability decreases that being verified higher level categories on importance , *ceteris paribus*. These results confirm hypothesis 1 and support the idea that firms with less competencies (in particular, smaller firms, less experienced in international markets and less productive) have fewer resources and more difficulties in developing FDI and therefore value public support more highly.
The smaller probability of attributing higher levels of importance to this measure by family owned firms supports the idea that these firms have own means to develop FDI and the use of public support is opportunistic.
As to the FDI requirements, Table 7 shows that firms with greenfield investments are more likely to assign higher levels of importance to this measure than firms with other modes of entry. This result is in line with the results verified for ISM1 and ISM8 and goes against the results verified for ISM3.
In terms of physical distance, we verified that the importance of ISM9 increases for firms with FDI in locations which are further away. This result goes against the results obtained for ISM3 and support the idea that public support is more important in more demanding locations.
Finally, we found a positive effect of GDP growth on the perceived importance of public support. This result corroborates the idea that host countries with greater GDP growth are in general less developed and often less easy to reach than more developed countries where the structures for investment are already established.
Summarizing the results of the marginal effects from the analysis of ISM9, Table 10 shows that:

- An increase of one employee in size augments the probability of ISM8 being classified as unimportant by about 0.004%, unlike the probability of being classified as essential, which decreases 0.017%;

- An increase of one year in international experience through exports augments the probability of ISM9 being classified as unimportant by about 0.04%, unlike the probability of being classified as essential, which decreases 0.19%;

- An increase of one percent in the ratio between sales and total employees (labor productivity) increases the probability of ISM9 being classified as unimportant by about 0.004%, unlike the probability of being classified as essential, which decreases 0.0002%;

- A family owned firm presents a increase of 0.1% in the probability of ISM9 being classified as unimportant, and a decrease of 9% in the probability of ISM9 being classified as essential, relatively to a non foreign-owned firm;

Table 9: Estimation Results: Ordered Probit for ISM9

Variable	Coefficient	(Std. Err.)
Equation 1: ISM9		
Size	-0.004***	(0.001)
Age	-0.002	(0.019)
International Experience	-0.046**	(0.023)
Financial Constraints	-1.414	(1.702)
Human Capital	1.153	(1.011)
Innovative Intensity	-3.409	(3.589)
Productivity	-0.000***	(0.000)
Family Ownership	-1.295**	(0.535)
Foreign Ownership	1.402	(1.014)
Location	-0.444	(0.585)
Greenfield	2.000**	(0.801)
Mergers or Acquisitions	1.680	(1.315)
Host Country Physical Distance	0.000***	(0.000)
Host Country GDP per Capita	0.000	(0.000)
Host Country GDP Growth	4.128*	(2.282)
Natural Resource Seekers	-0.994	(1.042)
Market Seekers	-1.318	(0.984)
Equation 2 : cut1		
Intercept	9.362	(7.085)
Equation 3 : cut2		
Intercept	12.312*	(7.174)
Equation 4 : cut3		
Intercept	13.650*	(7.242)
Equation 5 : cut4		
Intercept	14.946**	(7.278)

Significance levels: $*$ **: 10%** $**$ **: 5%** $***$ **: 1%**

Source: Own elaboration

- The probability of ISM9 being classified as unimportant by firms with greenfield investments decreases by about 0.9%, and the probability of being classified as essential increases about 10.89%;
- An increase of one kilometer in physical distance decreases the probability of ISM9 being classified as unimportant by about 0.003%, unlike the probability of being classified as essential, which increases 0.001%;
- An increase of one percent in the growth rate of the host country decreases the probability of ISM9 being classified as unimportant by about 0.4%, unlike the probability of being classified as essential, which increases 17%.

Table 10: Marginal Effects on ISM9

	Level of Importance (%)				
Variable	Unimportant	L. Important	Important	V. Important	Essential
Size	4.16e-06	0.0014348	-0.0002796	-0.0009888	-0.0001706
Age	2.41e-06	0.0008318	-0.0001621	-0.0005732	-0.0000989
International Experience	0.0000466	0.0160795	-0.0031329	-0.0110813	-0.0019118
Financial Constraints	0.0014324	0.4944461	-0.0963384	-0.3407511	-0.0587889
Human Capital	-0.001168	-0.4031922	0.0785584	0.2778628	0.0479390
Innovative Intensity	0.0034526	1.191831	-0.2322177	-0.8213593	-0.1417070
Productivity	4.49e-09	1.55e-06	-3.02e-07	-1.07e-06	-1.84e-07
Family Ownership	0.0014248	0.3934761	0.0048228	-0.3088187	-0.0909049
Foreign Ownership	-0.0171031	-0.4955633	0.3078571	0.1858176	0.0189917
Location	0.0006748	0.1607759	-0.0462732	-0.0996933	-0.0154843
Greenfield	-0.0092488	-0.6345906	0.1437125	0.391179	0.1089480
Mergers or Acquisitions	-0.0009208	-0.4009273	-0.1714762	0.3652765	0.2080478
Host Country Physical Distance	-3.43e-07	-0.0001183	0.0000231	0.0000815	0.0000141
Host Country GDP per Capita	-3.81e-08	-0.0000132	2.56e-06	9.06e-06	1.56e-06
Host Country GDP Growth	-0.0041805	-1.4431040	0.2811759	0.9945257	0.1715829
Natural Resource Seekers	0.0044308	0.3722693	-0.1774301	-0.1771294	-0.0221406
Market Seekers	0.001898	0.4170091	-0.0313868	-0.3063300	-0.0811903

Source: Own elaboration

5 Conclusion and Discussion of Results

This study provides empirical evidence regarding the effects of firm competencies and FDI requirements on the perceived importance of ISMs. Using data from a single country, we found a low level of use of several ISMs.

This preliminary finding is in line with the existing literature on this matter Crick (1997); Mosselman and Prince (2004); Koksal (2009); EURO (2010). Moreover the results of this survey suggest that firms in general evaluate the measures surveyed from "important-to-essential" to develop their main project of FDI.

Selecting four ISMs with higher levels of use, two non-financial and two financial, resulting from a survey developed recently with 104 Portuguese firms with foreign direct investment, we test a model based on ordered choices. This model considers firm competencies and the requirements of foreign direct investment as sources of variation to evaluate the perceived importance of public support ordered on a five point scale.

The results overall reveal that public support may promote equity since firms with less competencies attach more importance to public support. Otherwise, when the FDI's requirements increase, the value assigned to public support also increase.

We conclude that a non-uniform assessment of public support may reveal a promotion of equity through a positive discrimination in favor of less skilled firms and those facing more demanding projects of foreign direct investments.

Despite the use of a representative sample, this study is exploratory and has at least two limitations that prevent a generalization of its findings. The first limitation is the sample, which was built with firms from a small country. We do not consider any spatial differences that could arise with the inclusion of firms from other countries. The second limitation derives from the model's not consider time variations. The importance of public support may change in different periods of time, e.g., during periods of recession, public support may have more importance than in other periods. We only can caught the effects during a period of crisis (2009-2010).

Despite these limitations, the study may help to understand how entrepreneurs assess public support and how public support can promote equity between firms.

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Appendices

A Cross-correlation Matrices

Table 11: Cross-correlation Table

Variables	SIZE	AGE	EXPX	FCS	HRQ	RDI	PROD	FAM	FF	LOC	COOP1	COOP2	COOP3	PDHS	PRK	GDPC	GDPG	MOT1	MOT2
SIZE	1.000																		
AGE	0.510	1.000																	
EXPX	0.026	0.111	1.000																
FCS	-0.213	-0.250	-0.087	1.000															
HRQ	0.050	-0.005	-0.006	0.262	1.000														
RDI	0.639	0.359	0.107	-0.165	0.241	1.000													
PROD	0.476	0.387	0.220	-0.161	0.199	0.619	1.000												
FAM	0.054	0.066	-0.157	-0.056	-0.253	-0.092	-0.170	1.000											
FF	-0.016	-0.114	0.160	0.036	0.034	-0.020	0.037	0.074	1.000										
LOC	-0.023	-0.110	-0.061	-0.087	0.098	0.080	0.111	-0.088	-0.005	1.000									
COOP1	0.092	-0.077	0.011	-0.050	0.064	0.119	0.095	0.020	-0.083	-0.034	1.000								
COOP2	0.000	0.106	-0.094	-0.004	-0.027	-0.077	-0.053	-0.013	0.053	0.053	-0.640	1.000							
COOP3	-0.118	-0.007	0.079	0.068	-0.055	-0.075	-0.069	-0.013	0.053	-0.010	-0.640	-0.182	1.000						
PDHS	0.140	0.030	-0.036	0.038	-0.023	0.114	0.029	0.157	0.038	0.092	-0.097	-0.108	0.233	1.000					
PRK	0.133	-0.016	-0.062	-0.048	-0.060	-0.028	-0.026	0.122	-0.064	0.088	-0.177	-0.018	0.245	0.706	1.000				
GDPC	-0.176	-0.160	0.023	0.097	0.041	0.024	-0.060	-0.113	0.022	-0.080	0.234	-0.037	-0.262	-0.560	-0.860	1.000			
GDPG	-0.258	-0.008	0.000	0.028	0.019	0.053	-0.002	-0.123	-0.016	0.138	-0.095	-0.060	0.182	0.142	0.174	-0.215	1.000		
MOT1	-0.089	-0.149	0.016	0.002	-0.011	-0.068	0.042	-0.015	0.076	0.077	0.126	-0.161	-0.000	0.023	-0.066	0.060	- 0.003	1.000	
MOT2	-0.006	-0.004	-0.009	0.053	0.073	0.146	0.014	-0.015	-0.168	0.026	0.404	-0.562	0.037	0.074	-0.031	0.094	0.119	-0.517	1.000
MOT3	0.106	0.098	0.073	-0.095	-0.093	-0.078	-0.009	0.077	0.116	-0.227	-0.017	-0.131	0.153	0.025	0.174	-0.202	-0.110	- 0.116	-0.395
MOT4	0.000	0.106	-0.094	-0.004	-0.027	-0.077	-0.053	-0.013	0.053	0.053	-0.640	1.000	-0.182	-0.108	-0.018	-0.037	-0.060	-0.161	-0.562

Source: own elaboration

Table 12: Cross-correlation Table (PRK excluded)

Variables	SIZE	AGE	EXPX	FCS	HRQ	RDI	PROD	FAM	FF	LOC	COOP1	COOP2	COOP3	PDHS	GDPC	GDPG	MOT1	MOT2	MOT3
SIZE	1.000																		
AGE	0.510	1.000																	
EXPX	0.026	0.111	1.000																
FCS	-0.213	-0.250	-0.087	1.000															
HRQ	0.050	-0.005	-0.006	0.262	1.000														
RDI	0.639	0.359	0.107	-0.165	0.241	1.000													
PROD	0.476	0.387	0.220	-0.161	0.199	0.619	1.000												
FAM	0.054	0.066	-0.157	-0.056	-0.253	-0.092	-0.170	1.000											
FF	-0.016	-0.114	0.160	0.036	0.034	-0.020	0.037	0.074	1.000										
LOC	-0.023	-0.110	-0.061	-0.087	0.098	0.080	0.111	-0.088	-0.005	1.000									
COOP1	0.092	-0.077	0.011	-0.050	0.064	0.119	0.095	0.020	-0.083	-0.034	1.000								
COOP2	0.000	0.106	-0.094	-0.004	-0.027	-0.077	-0.053	-0.013	0.053	0.053	-0.640	1.000							
COOP3	-0.118	-0.007	0.079	0.068	-0.055	-0.075	-0.069	-0.013	0.053	-0.010	-0.640	-0.182	1.000						
PDHS	0.140	0.030	-0.036	0.038	-0.023	0.114	0.029	0.157	0.038	0.092	-0.097	-0.108	0.233	1.000					
GDPC	-0.176	-0.160	0.023	0.097	0.041	0.024	-0.060	-0.113	0.022	-0.080	0.234	-0.037	-0.262	-0.560	1.000				
GDPG	-0.258	-0.008	0.000	0.028	0.019	0.053	-0.002	-0.123	-0.016	0.138	-0.095	-0.060	0.182	0.142	-0.215	1.000			
MOT1	-0.089	-0.149	0.016	0.002	-0.011	-0.068	0.042	-0.015	0.076	0.077	0.126	-0.161	-0.000	0.023	0.060	-0.003	1.000		
MOT2	-0.006	-0.004	-0.009	0.053	0.073	0.146	0.014	-0.015	-0.168	0.026	0.404	-0.562	0.037	0.074	0.094	0.119	-0.517	1.000	
MOT3	0.106	0.098	0.073	-0.095	-0.093	-0.078	-0.009	0.077	0.116	-0.227	-0.017	-0.131	0.153	0.025	-0.202	-0.110	-0.116	-0.395	1.000
MOT4	0.000	0.106	-0.094	-0.004	-0.027	-0.077	-0.053	-0.013	0.053	0.053	-0.640	1.000	-0.182	-0.108	-0.037	-0.060	-0.161	-0.562	-0.131

Source: Own elaboration